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Notice of Allowability

Application No.

09/997,810

Examiner

Tammara R Peyton

Applicant(s)

HALSTEAD ET AL.

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed 7/2/04.
2. ☒ The allowed claim(s) is/are 1-52.
3. ☒ The drawings filed on 30 November 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/2/04 and 8/9/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



EXAMINER'S REASON FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance, the prior of record as submitted as IDS on 07/02/04 and 08/09/04:

BLEIDT et al.	US 6,529,994 Patented 03/04/03
HAYTER et al.	US 6,405,294 Patented 06/11/02
MIKKELSEN et al.	US 6,539,462 Patented 03/25/03
ATKIN	US 6,145,066 Patented 11/07/00
SCHULTZ et al.	US 5,809,224 Patented 09/15/98

BLEIDT teaches a system allows dynamic allocation of user slots in which data access to such slots provides for improve latency by reducing the necessary size of a data buffer in a data storage, retrieval, and distribution system . (Figs. 1 and 5)

However, BLEIDT does not teach dynamically creating a communication path between first and second storage devices, comprising: creating a connection to a source volume on the first storage device and indicating that the source volume is not ready to transmit data on the communication path; determining which of said source volume and a destination volume contains an initial set of data; after successfully creating the connection to the source volume, creating a connection to the destination volume on the second storage device and initially indicating that portions of one of: the destination volume and the source volume do not contain valid copies of data in accordance with

Art Unit: 2182

which of said destination and said source volumes contains said initial set of data after successfully creating the connections to the source and destination volumes, indicating that the source volume is ready to transmit data on the communication path; and transferring the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

HAYTER teaches a data migration system including a source DASD and a target DASD wherein data integrity is ensured by initiating all data updates from the source DASD to the target DASD. However, HAYTER teaches wherein updates are transferred from the source DASD to the target DASD and access to the updates from the target DASD is on a read-only basis during the transferring process is ongoing or in a read-write access if migration is in process. (col. 7, lines 35-44) HAYTER does not teach wherein transferring the initial set of data from either the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

MIKKELSEN teaches a data transfer system having a first storage system (DASD) and a second storage system (DASD) wherein data is remotely copied to the second storage system in order to ensure continuous data application processing.

Art Unit: 2182

MIKKELSEN teaches a suspend command that causes a first data-write command to record information to the first storage system and to send a second data-write command to the second storage system for recording a second information is the second command has not yet passed or caching an identifier by the first data-write command if the suspend command time has passed. (Figs. 1-5) During the suspend mode information is not transmitted from the first storage system to the second storage system causing the system to become out of sync and to solve this problem the system will cache the data that needs to be transferred. However, MIKKELSEN does not teach wherein the second storage system (destination volume) and the first storage system (source volume) do not contain valid copies of data in accordance with which of said destination and said source volumes contains said initial set of data after successfully creating the connections to the source and destination volumes, indicating that the source volume is ready to transmit data on the communication path; and transferring the initial set of data from one of the source volume and the destination volume to the other one the source volume and the destination volume while transferring data written after the initial data from the source volume to the destination volume.

ATKIN teaches a data migration system including a source volume and a target volume wherein a data migration program uses data accessed to and from the source volume, to migrate data from the source volume to the target volume and data accessed to and

Art Unit: 2182

from the target volume. (Figs. 6-11) However, ATKIN does not teach wherein transferring an initial set of data from either the source volume and the target volume to the other one the source volume and the target volume while transferring data written after the initial data from the source volume to the target volume.

SCHULTZ teaches an on-line disk array reconfiguration system wherein during the reconfiguration of a disk array data stored in a source volume and a destination volume are maintain and a determination of whether specific data located in the source volume or the destination volume and a copy operation is performed from either the source volume or the destination volume depending upon where the specific data is located. (Figs. 3a-3c, 6a-6d, 7a, 7b, and 9) However, SCHULTZ does not teach wherein transferring an initial set of data from either the source volume and the target volume to the other one the source volume and the target volume while transferring data written after the initial data from the source volume to the target volume.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 2182

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tammara Peyton whose telephone number is (703) 306-5508. The examiner can normally be reached between 6:30 - 4:00 from Monday to Thursday, (I am off every first Friday), and 6:30-3:00 every second Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin, can be reached on (703) 308-3301. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718. Any inquiry of a general nature of relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Mailed responses to this action should be sent to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231.

Faxes for Official/formal (After Final) communications or for informal or draft communications (please label "PROPOSED" or "DRAFT") sent to:

(703) 872-9306

Hand-delivered responses should be brought to:

USTPO, 2011 South Clark Place, Customer Window
Crystal Plaza Two, Lobby Room 1B03, Arlington, VA, 22202Crystal Park II, 2121.



Tammara Peyton

September 2, 2004